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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/007,866

12/06/2001

Vijay Kumar

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6560

22885

7590

03/25/2005

EXAMINER

WHITE, EVERETT NMN

MCKEE, VOORHEES & SEASE, P.L.C.  
801 GRAND AVENUE  
SUITE 3200  
DES MOINES, IA 50309-2721

ART UNIT

PAPER NUMBER

1623

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/007,866

Applicant(s)

KUMAR ET AL.

Examiner

EVERETT WHITE

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-36 is/are pending in the application.
- 4a) Of the above claim(s) 13-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2004 has been entered.

2. The amendment filed December 10, 2004 has been received, entered and carefully considered. The amendment affects the instant application accordingly:

- (A) Claims 1-6 and 37 have been canceled;
- (B) Claims 13-34 are withdrawn;
- (C) Claims 7-12, 35 and 36 have been amended;
- (D) Comments regarding Office Action have been provided drawn to:
  - (I) 102(b) rejection over the Bogan et al patent, which has been maintained for the reasons of record;
  - (II) 102(b) rejection over the Lee et al patent, which has been withdrawn;
  - (III) 112 2<sup>nd</sup> paragraph rejection, which has been withdrawn.

3. Claims 7-36 are pending in the case.

4. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

5. Claims 7-12 and 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of an intended use, chemical activity or functional description of some "additional" property for a compound must result in an actual further limitation to the product in order to be further limiting. In instant **Claims 7-12 and 35** the intended

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activities is seen to be “a dried product (see Claim 7); the product being in a monolithic transparent film (see Claim 8), the product being in a biodegradable coating (see Claim 9), the product being in a pharmaceutical formulation, in an agricultural product, and in a veterinary composition (see Claims 10 and 35); and the product being soluble in specific solvents (see Claims 11 and 12)”. In the absence of further product limitation, per se, the claims are seen to be substantial duplicates, and said activities are not afforded critical weight and fail to further limit the product of Claim 36 from which **Claims 7-12 and 35** depend. **Claims 7-12 and 35** should be canceled or amended to provide a tangible manipulative difference (further limitation) to the product of Claim 36. **Claims 7-12 and 35** are only drawn to how the product is to be used. Applicants are reminded that a difference in intended use cannot render a claimed composition novel. Note *In re Tuominen*, 213 USPQ 89 (CCPA, 1982); *In re Pearson*, 494 F2d 1399; 181 USPQ 641 (CCPA, 1974); and *In re Hack* 114 USPQ 161.

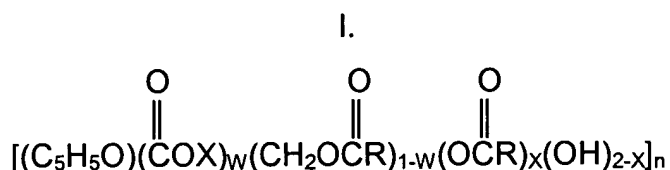
In Claim 12, the term “aprotic solvents” lacks clear antecedent basis by being dependent from Claims 11 and 36, which renders the Claim indefinite.

6. Applicant's arguments with respect to Claims 7-12 and 35 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

7. Claims 7-12, 35 and 36 stand rejected under 35 U.S.C. 102(b) as being anticipated by Bogan et al (US Patent No. 4,590,265, already of record)..

Applicants claim a biodegradable, oxidized cellulose ester having formulas I or II



wherein:

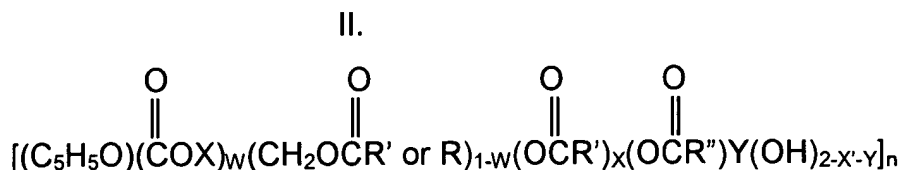
X is selected from the group consisting of H, Na, K, Ca, NH<sub>4</sub>, and NEt<sub>3</sub>H;

whereby R is (CH<sub>2</sub>)<sub>n</sub>(COOH, where n is 2 to 4;

w is 0.1-1.0; x is 0.1-2.0; and n is 30-1500,

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and



wherein:

X is selected from the group consisting of H, Na, K, Ca, NH<sub>4</sub>, and NEt<sub>3</sub>H;

R' and R'' are each selected from the group consisting of H; CF<sub>3</sub>, (CH<sub>2</sub>)<sub>n</sub>CH<sub>3</sub>, where n is from 0 to 18; (CH<sub>2</sub>)<sub>n</sub>COOH, where n is from 1 to 8; CY=CZCOOH, where Y and Z are independently selected for the group consisting of hydrogen, methyl, branched alkyl having from 1 to 20 carbon atoms and from one to three *cis* or *trans* double bonds; branched alkenyl having from 1 to 20 carbon atoms and having from one to three *cis* or *trans* double bonds; CY-CH<sub>2</sub>, where y is H, methyl, or phenyl; CH=CHY, where Y is C<sub>6</sub>H<sub>5</sub>; CH=CYCOOH, where Y is H or CH<sub>3</sub>; (CH<sub>2</sub>)<sub>8</sub>(CH=CH(CH<sub>2</sub>)<sub>8</sub>CH<sub>3</sub>); or C<sub>6</sub>H<sub>2-6</sub>(COOH)<sub>0-4</sub>, CH<sub>2</sub>CH(COOH)CH<sub>2</sub>-COOH;

w is 0.1-1.0; x' is 0.1-1.9; y is 0.1-1.9; and n is 30-850.

Additional limitations in the dependent claims include: the oxidized cellulose ester being dried; the oxidized cellulose ester being present in a monolithic transparent film, a biodegradable coating, a pharmaceutical, an agricultural product, and a veterinary composition; and oxidized cellulose ester being soluble in specific solvents.

The Bogan et al patent discloses a chemical modification of a cellulose ester by oxidizing the primary hydroxyl group at the C<sub>6</sub> position of the anhydroglucose ring of the cellulose ester to produce a carboxylated cellulose ester (see column 17, lines 44-50), which meets the carboxyl content set forth in the instant claims. See the structure of the carboxylated cellulose acetate butyrate at the bottom of column 16 of the Bogan et al patent, which anticipates the oxidized cellulose ester of formula II set forth in instant Claim 36 when X represents H; when R' and R'' represent (CH<sub>2</sub>)<sub>n</sub>CH<sub>3</sub>, n is 0 or 2; when w is 1; and when x' and y are 0.1-1.9. The Limitation in the instant claims regarding a process step wherein the oxidized cellulose ester is dried is noted, but does not make the claimed oxidized cellulose ester patentable since process limitations cannot impart

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patentability to a product that is not patentably distinguished over the prior art. *In re Thorpe et al.* (CAFC 1985), supra; *In re Dike* (CCPA 1968) 394 F2d 584, 157 USPQ 581; *Tri-Wall Containers, Inc. v. United States et al.* (Ct Cls 1969) 408 F2d 748, 161 USPQ 116; *In re Brown et al.* (CCPA 1972) 450 F2d 531, 173 USPQ 685; *Ex parte Edwards et al.* (BPAI 1986) 231 USPQ 981. Limitations in the instant claims regarding the presence of the oxidized cellulose in a monolithic transparent film, a biodegradable coating, a pharmaceutical, an agricultural product, or a veterinary composition are noted, but do not make the claimed oxidized cellulose ester patentable since a difference in intended use cannot render a claimed composition novel. Note *In re Tuominen*, 213 USPQ 89 (CCPA, 1982); *In re Pearson*, 494 F2d 1399; 181 USPQ 641 (CCPA, 1974); and *In re Hack* 114 USPQ 161. With regard to the instantly claimed oxidized cellulose ester being biodegradable and soluble in specific solvents, Applicants are reminded that products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties Applicant discloses and/or claims are necessarily present. *In re Spada* 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01. Accordingly, the above described carboxylated cellulose ester of the Bogan et al patent anticipates the instantly claimed biodegradable, oxidized cellulose ester for the reasons set forth herein.

### **Arguments**

8. Applicant's arguments filed December 10, 2004 have been fully considered but they are not persuasive. Applicant argue against the rejection of the claims under 35 U.S.C. 102 on the grounds that the structure at the bottom of column 16 of the Bogan et al patent only represents a segment of the Bogan et al carboxylated product. This argument is not persuasive since the moieties described in the formula of instant Claim 36 may only cover segments of the claimed product. For example, the group  $(OCOR')_x$  in formula II of Claim 36 is only located in segments of the claimed product when  $x'$  is 0.1. When  $w$  is 1, the group  $(CH_2OCOR' \text{ or } R'')_{1-w}$  in Formula II does not appear to be present in the claimed compound. Hence, the fact that the structure at the bottom of column 16 of the Bogan et al patent only represents a segment of the Bogan et al

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carboxylated product fall within the description of the oxidized cellulose ester of instant Claim 36.

Applicants also argue against the rejection on the ground that a chain cleavage reaction takes place as the oxidation reaction proceeds in the Bogan et al patent, which lead to the formation of a lactone. This argument is not persuasive since the rejection of the instant claims is based only on the structure at the bottom of column 16 of the Bogan et al patent.

Further arguments were presented regarding the biodegradability of the instantly claimed oxidized cellulose ester and the non-biodegradability of the cellulose esters set forth in the Bogan et al patent. This argument is not persuasive since products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada* 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01

Argument regarding the utility of the cellulose products disclosed in the Bogan et al patent was considered by the Examiner. However, this argument is not persuasive since a difference in intended use cannot render a claimed composition novel. Note *In re Tuominen*, 213 USPQ 89 (CCPA, 1982); *In re Pearson*, 494 F2d 1399; 181 USPQ 641 (CCPA, 1974); and *In re Hack* 114 USPQ 161.

Accordingly, the rejection of Claims 7-12, 35 and 36 under 35 U.S.C. 102(b) as being anticipated by the Bogan et al patent is maintained for the reasons of record.

### ***Summary***

9. Claims 7-12, 35 and 36 are rejected; Claims 13-34 are withdrawn from consideration as being directed to a non-elected invention.

***Examiner's Telephone Number, Fax Number, and Other Information***

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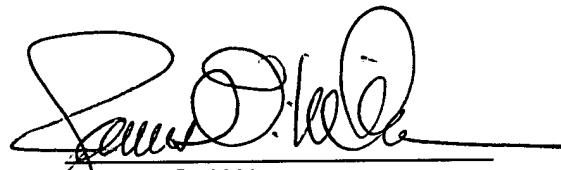
10. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit our website at [www.uspto.gov](http://www.uspto.gov) and click on the button "Patent Electronic Business Center" for more information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (571) 272-0660. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reached on (571) 272-0661. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

  
E.White

  
James O. Wilson  
Supervisory Primary Examiner  
Technology Center 1600